

# Prescribing...

## Liquids for Children

- It is assumed that ill children under 12 years should always be prescribed oral medicines in liquid form.
- However, whilst there is little definitive information in the medical literature, solid dosage forms are safe and acceptable for otherwise healthy school age children and certainly after the age of eight years.
- Tablets and capsules may be more convenient, more palatable, more stable and represent much better value than liquids for older children.

### Why is this an issue?

There are many misunderstandings and myths surrounding swallowing by children. The swallowing reflex can be seen in ante natal scans and most healthy full term babies can swallow effectively from birth. However, the small size of the larynx and pharynx in newborns and very young children means that all their oral medicines need to be administered in liquid form.

We know from our clinical practice that liquid medicines are given to children of all ages and the reasons may include

- The child has been on liquids from a young age and the required product remains the same.
- The lower paediatric dose may not be available in a solid dose form e.g 125mg of amoxicillin.
- The child and or the carers or parents may believe that he or she cannot swallow tablets or capsules because of previous prescriptions for liquids.

However, there is no physiological reason why otherwise healthy older children may not be given tablets or capsules to take. Logically many may prefer this if given the option.

### Why should tablets or capsules be considered?

As well as being much more palatable, solid dose forms are more stable and convenient than liquids. There is also some in-built safety in giving tablets rather than liquids because the dose is controlled. It does not depend on the accuracy of measuring out an amount. Giving tablets to children is well accepted in some areas of practice such as attention deficit hyperactivity disorder. Another option, when a child needs an unusual medicine, is the use of licensed soluble tablets instead of expensive unlicensed liquid "specials" which may take many days to reach the islands.

The Pharmaceutical Journal offers the following tips on giving tablets or capsules to children<sup>2</sup>.

- ✓ Give the child a spoonful of yoghurt, apple sauce or mousse with the tablet so he/she can swallow it all together.
- ✓ Tell the child to put the tablet on the back of the tongue, take a sip of a favourite drink, then tilt the head back and swallow.
- ✓ Ask the child to put the tablet in the mouth and then drink a glass of water through a straw. Many children will concentrate on the straw and not think about the tablet, so it goes down easily.
- ✓ Encourage the child to take a couple of swallows of milk, which makes the tongue and throat more slippery, before taking the tablet.

### What about long-term medication for children?

Various behavioural techniques for children on long-term medication have been reported as being successful. These include

- ❖ Verbal praise i.e. giving enthusiastic praise if the child swallows successfully.
- ❖ Positive reinforcement e.g. rewarding compliance with, say , a sticker.
- ❖ Ensuring that medicines are given at a consistent time and location and by the same person, as this helps develop a familiar routine.

### What about cases when the use of liquids are unavoidable?

Many liquid medicines are unpalatable and have unpleasant tastes and/or textures. Compliance with liquid medicines is greatly affected by palatability and being able to tell a child the flavour of a medicine is always a great start.

Parents understandably worry when their babies have spat out a medicine. They are faced with the dilemma, often at 3 a.m., of worrying whether or not the baby has had enough. And would it be dangerous to give another dose? Oral syringes are much more convenient and result in less spillage than medicine spoons. Directing the syringe to the back of the cheek and injecting slowly makes it much harder for a baby to spit out the dose. However this does not always work in practice.

Masking the taste if not liked is another strategy. Strong blackcurrant juice is a good masking agent and giving it immediately after the medicine or mixed with the medicine, if appropriate, can be helpful.

Sugar free medicines are recommended in the NSF for children and should be sought for all long-term medicines. However, many sugar-free medicines contain sorbitol as a sweetener, which can cause diarrhoea.

Using a smaller volume of a stronger liquid may be helpful. So, it may be easier to give 2.5mls of a 250mg/5ml product than 5mls of a 125mg/5ml product.

Alcohol may be used in liquid medicines for various reasons, sometimes to improve solubility, or as an antimicrobial or for flavouring. This may be culturally unacceptable for some families.

### In summary

- Babies, pre-school children and special needs children requiring an oral medicine are usually best offered it in liquid form.
- Otherwise healthy children may safely swallow tablets and capsules once they have gone to school and certainly after the age of eight years.
- Many liquid medicines have unpleasant tastes and/or textures. So solid dose formulations may be more acceptable for older children.
- When prescribing and supplying liquid medicines healthcare professionals should ensure that carers know how to measure liquid doses accurately.

**References :** 1. The Pharmaceutical Journal Vol 286 , pg 271-274, 5 March 2011.

2. Adapted from IannelliV. Pill swallowing tips for kids with ADHD.<http://pediatrics.about.com>

Please contact me if you would like any more information on this topic, or if you have any comments or observations on the contents of this bulletin.

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